Review Comments
Stormwater Assessment and Additional Site Activities Report
Container Management Services Site
3000 NW St. Helens Road
Portland, Oregon
Dated June 2015
Submitted August 26, 2015

Following are the United States Environmental Protection Agency's (EPA) comments on the June, 2015 document entitled, Stormwater Assessment and Additional Site Activities Report, Container Management Services Site, 3000 NW St. Helens Road Portland, Oregon (Assessment Report) prepared by SLR International Corporation, Inc. (SLR). The site is located within the City of Portland's Outfall Basin No. 18, which discharges to the Willamette River at approximate RM8.75W.

EPA understands the objective of the assessment activities were to improve the understanding of stormwater flow patterns and to screen site soils, catch basin sediments, and stormwater discharges to ensure the site is not potentially contributing hazardous substances to the Willamette River via municipal or private stormwater utilities. The stormwater assessment was performed pursuant to the request of the Oregon Department of Environmental Quality (DEQ) in the Letter of Agreement for Stormwater Assessment and Source Control Container Management Services, ECSI #4784, dated April 11, 2007.

General Comments

1. The table below summarizes the information presented in the Assessment Report and EPA's recommendations for the Container Management Services site. Based on current information, EPA recommends that DEQ consider requiring additional stormwater source control measures (SCMs) to reduce potential Willamette River recontamination impacts from this site. This recommendation is based on multiple lines of evidence including comparison of analytical results to Portland Harbor Joint Source Control Strategy (JSCS) Screening Level Values (SLVs) and 2015 EPA Preliminary Remediation Goal (PRG) values developed for Remedial Action Objectives (RAO) 3 and 7. After implementation of additional SCMs, EPA also recommends that DEQ consider requiring subsequent stormwater sampling to support effectiveness evaluations.

2. Future stormwater sampling efforts should strive to comply with JSCS sampling guidance and storm event criteria to collect data that is sufficiently representative of stormwater discharges from the site. Reporting of analytical results should also comply with JSCS guidance and include presentation of SLV exceedances on an order of magnitude basis to assist in determining which chemicals of concern (COCs) are of highest priority. The stormwater results presented in the Assessment Report do not fully meet JSCS criteria, and their usability for the assessment therefore may be limited.

EPA Site Status Summary – Container Management Services

Question	Answer	Description
Are source control measures being implemented?	Yes	Routine catch basin inspection and maintenance; sweeping of paved areas when necessary; good housekeeping; employee training; catch basin filter inserts; new warehouse roofing; soil stabilization with geotextile fabric and gravel (warehouse area only).
Are there significant JSCS SLV exceedances?	Yes	Soil: metals, organochlorine pesticides, PCBs, PAHs, SVOCs. Magnitude of exceedances not presented. Stormwater: metals, organochlorine pesticides, PCBs, PAHs. Magnitude of exceedances not presented.
Are there significant stormwater PRG exceedances?	Yes	RAO 3: Arsenic, organochlorine pesticides, PCBs, PAHs. RAO 7: Copper, zinc, DDx, PAHs.
Are pollutant concentrations typical of Portland Harbor industrial sites (e.g. below the knee of the curve)?	NA	No comparison to typical Portland Harbor industrial stormwater presented.
Are stormwater COCs from this site the same as those defined for the associated SMA?	Yes	PCBs (primary concern), PAHs, organochlorine pesticides, metals.
Do sampled stormwater events meet JSCS criteria?	No	Refer to Specific Comment #4 below.
Is further stormwater data collection recommended?	Yes	Refer to Specific Comments #4 and #6 below.
Are additional source control measures recommended?	Yes	Refer to Specific Comment #6 below.

Specific Comments

1. Section 2.4 Facility Drainage, Wastewater Treatment System: The location of the wastewater treatment system, portions of the site discharging stormwater to the wastewater treatment system and associated catch basins should be clearly defined in the site maps.

    a. The site maps should also show the location of the conveyor secondary containment (CSC), clearly identify which catch basins are currently in service (legend appears to be incorrect), and note sizes and flow directions of storm drain lines.

    b. Clarify the current disposition of SW-6. The description under "Warehouse Drainage Basin" provides conflicting information about whether or not SW-6 was closed or removed. Provide a brief description of the permitting requirements for the treated wastewater discharged to the POTW (i.e., pretreatment and/or BES permit) and identify the chemicals/constituents being treated.

2. Section 5.3 Analytical Results: The presentation of analytical results from the catch basin sediment sampling should follow guidance presented in the JSCS Appendix D Framework for Portland Harbor Storm Water Screening Evaluations. Section D.7 states that analytical tables "*should clearly identify the sampling location(s), unit of measurement, compounds detected, laboratory detection limits, and SLVs. Detected compounds should be in bold text and compounds exceeding SLVs should be shaded for easy reference.*" The magnitudes of SLV exceedances should also be provided as stated in the JSCS. Analytical results should be reported using consistent units; i.e. when comparing JSCS levels versus analytical results, use the same units.

3. Section 6.4 Surficial Soil Sampling Analytical Results: Specific Comment #2 above also applies to the surficial soil sampling presented in Section 6.

4. Section 7.1 Stormwater Assessment Sampling: The JSCS guidance (Section D.5.2) states that two of the four stormwater sampling events should be representative of "first flush" conditions (i.e., within the first 30 minutes of stormwater discharge) and the other two events should be collected within the first three hours of stormwater discharge. The JSCS storm event criteria also requires an antecedent dry period (<0.1") of at least 24 hours.

    The rainfall hyetographs provided in the Assessment Report should indicate the approximate time that stormwater discharge occurred relative to sample collection. Based on precipitation data alone, it does not appear that any of the four samples were collected during first flush conditions, and only the first storm event was sampled during the first three hours of discharge. Additionally, the third and fourth sampling events did not have dry antecedent conditions for 24 hours prior to the event.

    The stormwater sampling guidance and storm event criteria in the JSCS were established to collect data that are representative of typical stormwater discharge. Since these criteria were not met, the stormwater results may not be representative, and additional stormwater sampling may be required.

Provide the date when Container Management obtained 1200-Z permit coverage. In addition, provide dates when stormwater lines were cleaned out versus when stormwater sampling was conducted. Summarize any stormwater analysis data prior to November 2010, and identify/describe other potential contributors to stormwater that enters SW-3 other than Container Management.

5. Section 7.4 Discussion of Stormwater Sampling Results:

    a. Specific Comment #2 above also applies to the stormwater sampling presented in Section 7.

    b. Stormwater SLV exceedances are reported for metals (aluminum, arsenic, cadmium, copper, lead, manganese, silver, and zinc), PCBs (Aroclor 1254 and Aroclor 1260), organochlorine pesticides (Chlordane, 4,4'-DDE, 4,4'-DDE, 4,4'-DDT, Dieldrin, Heptachlor epoxide, 2,4'-DDD, and 2,4'-DDT), and PAHs (Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene). The magnitudes of these SLV exceedances should be flagged to assist in determining which COCs are of greatest concern.

    c. As an additional line of evidence for stormwater screening, SLR should consider comparing the applicable constituents with SLV exceedances to the "typical" industrial stormwater runoff concentration curves presented in Appendix E of the DEQ Guidance for Evaluating the Stormwater Pathway at Upland Sites.

    d. SLR is using analytical results from NPDES 1200-Z permit stormwater sampling from the second half of 2012, 2013, 2014, and the first part of 2015 to state that "BMPs are likely having a positive effects in limiting the migration of Site COCs from surrounding surficial soils." However, EPA does not consider the NPDES 1200-Z sampling criteria to be sufficient for upland stormwater screening evaluations to support source control evaluations protective of the Willamette River. For example, samples collected to comply with the 1200-Z permit may be collected within the first 12 hours of discharge which does not meet JSCS sampling criteria. Therefore, the statement regarding effectiveness of BMPs requires additional supporting information pertaining to these sampling events such as storm size, antecedent conditions, discharge duration, and discharge event sample times.

6. Section 11 Findings and Recommendations:

    a. This section of the Assessment Report states that several new or modified BMPs were implemented in September and October of 2010 subsequent to the first stormwater sampling event. A brief description of these BMPs and locations should be provided.

    b. SLR states that stormwater sampling events subsequent to BMP implementation showed a marked decrease in the concentrations of constituents of concern. However, as discussed in Specific Comment #4 above, the stormwater sampling events did not meet all JSCS criteria and results may not be adequately representative of stormwater

discharges from the Container Management Services site. Additional stormwater sampling may be necessary to adequately characterize stormwater discharges.

c. SLV exceedances were observed for all four stormwater sampling events indicating that additional source control measures may be necessary to reduce pollutant concentrations in stormwater runoff. Additional stormwater samples should be collected subsequent to source control measure implementation to evaluate their effectiveness. Storm events sampling protocols should meet JSCS criteria to maximize the representativeness of analytical results. Evaluating other lines of evidence, such as comparisons to Portland Harbor typical industrial stormwater curves, should also be considered.